



EDO HMA CORE Official Manual

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English

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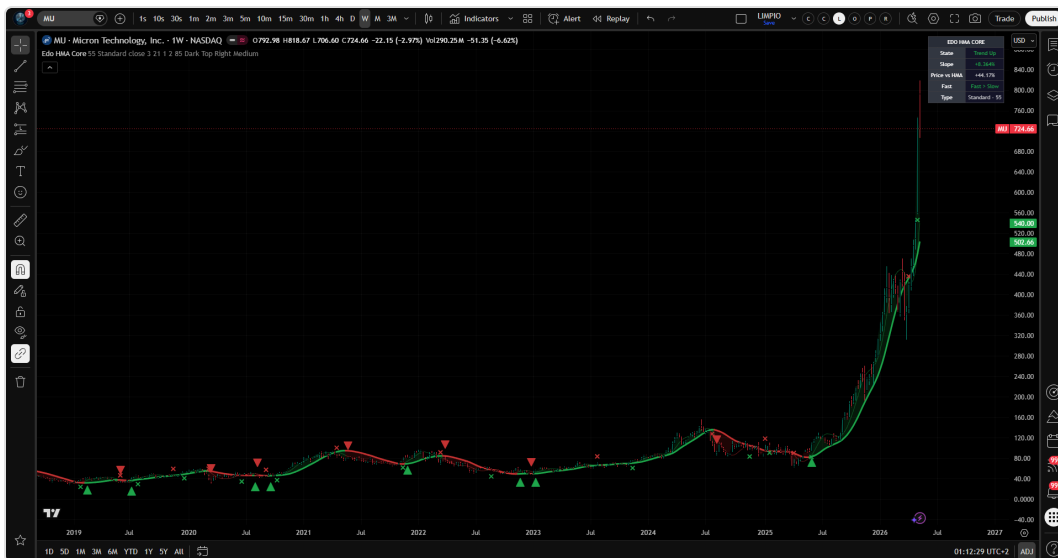
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Section 1 — Introduction

Edo HMA Core is a trend indicator built around the Hull Moving Average (HMA), a moving average designed to reduce the lag that is typical of classic moving averages without sacrificing smoothness. The indicator extends the HMA with a slope reading, a second faster HMA to detect acceleration, automatic inflexion markers, a state fill between price and average, and an information panel that summarises the current regime of the asset.

Its goal is to offer a clean, reactive and visually consistent trend surface, without losing the simplicity of a moving average. Every element of the indicator is designed to answer a specific trader question: which phase the trend is in, how strongly it moves, when it flips, when it accelerates, and how far price has travelled from its reference.

It is part of the Edolab ecosystem as an open indicator, published on TradingView, and is designed to integrate with any momentum, structure or volume system without overlapping their readings.



Edo HMA Core on MU weekly: main HMA with state colour, trend fill, inflexion and cross markers, and information panel.

Section 2 — What Edo HMA Core Is and Is Not

What Edo HMA Core is

- A trend indicator based on the Hull Moving Average, extended with three analytical layers.
- A tool to read direction, slope and acceleration of the trend on a single surface.
- A three-state visual system (Trend Up, Trend Down, Flat) based on the slope of the main HMA.
- An automatic inflexion detector with visual markers when slope changes sign.
- A clean complement to any momentum or structure system, without informational overlap.

What Edo HMA Core is NOT

- It is not a closed trading system or an automatic entry/exit generator.
- It does not predict tops or bottoms.
- It does not replace structure reading, risk management or trader judgement.
- It does not replace volume or oscillators — it provides a complementary trend reading.

Section 3 — Indicator Philosophy

Classic moving averages have a permanent dilemma. The smoother they are, the more lag they introduce. The faster they react, the more noise they carry. The Hull Moving Average was born to reduce that conflict: it offers a visual smoothness similar to a long average, but with significantly less lag.

Edo HMA Core starts from that original idea and turns it into a complete indicator. The HMA on its own is just a line: with Edo HMA Core, that line gains colour, slope, state, fill, inflexion markers and a second fast layer that adds extra acceleration readings. The result is an indicator that retains the visual purity of a moving average but delivers far richer information about the regime of the asset.

The indicator is built on three simple principles:

- Trend is not binary: it has direction, slope, age and acceleration. Each element of the indicator reflects one of those dimensions.
- Change matters more than level: slope inflexions and acceleration crosses are more useful signals than the absolute value of the average.
- The reading must be immediate: that is why the entire regime state is condensed into a five-field panel with a consistent colour code.

Section 4 — Technical Foundation: the Hull Moving Average

The Hull Moving Average was introduced by Alan Hull in 2005 as a more reactive alternative to traditional moving averages. Its construction combines three weighted moving averages (WMA) with mathematically derived lengths that minimise lag:

1. A WMA is calculated with half the original length ($WMA(src, length/2)$).
2. A second WMA is calculated with the full original length ($WMA(src, length)$).
3. An intermediate series is formed by subtraction: $2 \times WMA(length/2) - WMA(length)$.
4. The final result is a WMA of that intermediate series, with length equal to the square root of the original length ($WMA(intermediate, \sqrt{length})$).

The compact formula is:

$$HMA(n) = WMA(2 \times WMA(n/2) - WMA(n), \sqrt{n})$$

This construction produces an average that adapts quickly to price changes without accumulating noise. In practice, its visual lag versus an EMA or SMA of equivalent length is significantly lower, and its turns tend to be cleaner.

Note: The HMA operates directly on the asset price (overlay), not on a separate panel. Its absolute value depends on the current price; that is why the indicator builds several analytical layers on top of it (slope, state, panel) to allow a comparable, consistent reading across different assets.

Section 5 — Three Variants: Standard, Exponential and Triple

Edo HMA Core offers three different Hull Moving Average constructions, selectable from the **HMA Type** dropdown. Each variant retains the original idea of minimising lag, but adjusts the internal engine of the formula to fit different usage profiles.

Standard (classic HMA)

Built with three WMAs following Alan Hull's original formula. It is the most widely known version, the most balanced, and the default option of the indicator. It reacts quickly to price flips and produces a visually clean surface. It is the recommended choice on medium and high timeframes (4H, 1D, 1W).

Exponential (EHMA)

Variant built with EMAs instead of WMAs. It is slightly smoother than the Standard and reacts a bit slower to price flips. It is especially useful on very volatile assets or low timeframes, where the Standard version may produce too many inflexion signals.

Triple (THMA)

Variant of three WMAs combined with $1/3$, $1/2$ and full lengths, weighted in a specific way to produce sharper turns. It is the most reactive variant of the indicator and tends to mark inflexions earlier than the other two, at the cost of slightly more noise. It is the choice for those seeking maximum anticipation.



Standard HMA with length 55 on MU weekly. Sustained Trend Up with green fill and price riding the main line.

The user can switch between the three variants from configuration. All three share exactly the same plots, markers and panel; only the calculation engine of the main and fast lines changes.

Section 6 — Slope and State Classification

The slope is one of the key elements of the indicator. State is not defined by the HMA itself, but by its recent rate of change. Slope is calculated as the difference between the current HMA value and its value a few bars back:

$$\text{slope} = \text{HMA} - \text{HMA}[\text{lookback}]$$

The **Slope Lookback** parameter (default 2 bars) controls how reactive the reading is. Low lookbacks (1-2) produce a very sensitive state, ideal for catching turns early; high lookbacks (5-10) filter more noise and are suited to structural trends.

Based on the sign of the slope, the indicator assigns one of three states:

State	Condition	Colour
Trend Up	Slope > 0 (positive slope)	Green (#1FA64B)
Trend Down	Slope < 0 (negative slope)	Red (#C73535)
Flat	Slope = 0 (zero slope)	Neutral teal (#5B9FAD)

The current state is reflected in the colour of the main HMA, in the colour of the fast HMA, and in the fill between price and average. This colour consistency makes the regime readable at a glance, without needing to look at the panel.



Transition from Trend Down to Trend Up on MU weekly: red HMA with red fill, Flip Down marker, followed by a bullish turn with Flip Up and the resumption of green.

Section 7 — Fast HMA and Acceleration Crosses

Alongside the main HMA, the indicator calculates a second Hull Moving Average with a shorter length (21 by default), called **Fast HMA**. It shares type (Standard, Exponential or Triple) and source with the main, but reacts faster to price changes.

The relationship between both lines is read as an acceleration measure:

- **Fast above main:** recent momentum is accelerating relative to the underlying trend.
- **Fast below main:** recent momentum is decelerating or reversing.

Each cross between fast and main is automatically marked with an X-cross:

- **Fast Cross Up (x):** green X below the candle when fast crosses above main.
- **Fast Cross Down (x):** red X above the candle when fast crosses below main.



Fast Cross Up above the main HMA coinciding with the final expansion of the MU weekly rally.

Fast crosses are acceleration signals. They are not trend-change signals: for that, see the inflexion markers in the next section. Their usefulness lies in confirming that an existing trend move is gaining strength, or in detecting momentum loss before the main slope changes sign.

Section 8 — Inflexion Markers

The indicator automatically detects sign changes in the main HMA slope and marks them with triangles:

- **Flip Up (▲):** green triangle below the candle when slope crosses from negative to positive. Marks the start of a new bullish regime.
- **Flip Down (▼):** red triangle above the candle when slope crosses from positive to negative. Marks the start of a new bearish regime.

Inflexion markers are the most structural signals of the indicator. Every time a Flip Up or Flip Down appears, the state in the panel changes and the colour of the main HMA and of the fill update simultaneously.



Sequence of Flip Down and Flip Up on MU daily: each marker accompanied by a colour change of the HMA and the fill between price and average.

Note: An inflexion must always be read in context. A Flip Up after a prolonged Trend Down with momentum divergences is a structural signal; a Flip Up inside a flat range is noise. The indicator marks the event, but interpretation belongs to the trader.

Section 9 — Price / HMA Crosses and State Fill

In addition to slope inflexions and fast crosses, the indicator detects direct crosses of price with the main HMA. Those crosses do not produce visual markers (to avoid cluttering the chart), but they are available as alert conditions:

- **Price Crossed Above HMA:** close crosses above the main HMA for the first time. Bullish reclaim.
- **Price Crossed Below HMA:** close crosses below the main HMA for the first time. Loss of dynamic support.

Fill between price and HMA

Between the HMA line and the price, the indicator draws a translucent fill whose colour reflects the current state. When state is Trend Up the fill is green; when Trend Down it is red; in Flat it is neutral teal. Fill opacity is controlled by the **Fill Opacity** parameter (default 85, where 99 = almost invisible and 50 = very opaque).

This fill serves two simultaneous purposes. On one hand, it provides an immediate reading of state without having to look at line colour or panel. On the other, it makes the magnitude of the separation between price and HMA very visible: the larger the coloured area, the higher the *Price vs HMA* percentage and, in general, the stronger the trend in progress.



Fill changing from green to red and back to green during the pullback and recovery on MU daily.

Section 10 — Information Panel

The panel summarises in five fields the current state of the asset according to the indicator's reading. It is overlaid on the chart, in the corner configured by the user, and updates on every bar.



Edo HMA Core panel showing State, Slope, Price vs HMA, Fast and Type.

Field	Description	Possible values
State	Current state derived from the slope sign	Trend Up / Trend Down / Flat
Slope	Current HMA slope as a percentage of the HMA value	e.g. +4.402% / -0.739%
Price vs HMA	Distance of price from the HMA as a percentage	e.g. +50.25% / -13.00%
Fast	Relative position of Fast HMA versus main	Fast > Slow / Fast < Slow / Off
Type	Current variant and length of the main HMA	e.g. Standard - 55 / Exponential - 21 / Triple - 89

The colour of the **State** field and of the numeric fields (Slope, Price vs HMA, Fast) changes according to the active regime: green for bullish bias, red for bearish, teal for neutral. The combination of all five fields offers an immediate diagnosis: direction, strength, distance from price, whether acceleration is on side, and the exact configuration of the average.

Panel position and size

The user can configure the panel in four positions (Top Right by default, Top Left, Bottom Right, Bottom Left) and two sizes (Small and Medium). The **Theme** parameter

allows choosing between dark and light theme to match the chart background.

Section 11 — Configuration and Customisation

The indicator organises its inputs into five logical groups.

Hull MA

- **HMA Length:** main Hull MA length (default 55). Defines the time horizon of the indicator.
- **HMA Type:** Standard, Exponential or Triple. Determines the calculation engine.
- **Source:** input source (default close).
- **HMA Line Width:** main line thickness (1 to 5).

Fast Cross

- **Show Fast HMA Cross:** enables or disables the fast HMA and its cross markers.
- **Fast HMA Length:** length of the fast HMA (default 21).
- **Fast HMA Width:** fast line thickness (1 to 4).

State

- **Show Inflexion Markers:** enables or disables Flip Up and Flip Down triangles.
- **Slope Lookback (bars):** bars used to evaluate slope (1 to 10).
- **Fill Between Price and HMA:** enables the translucent fill between price and HMA.
- **Fill Opacity:** fill opacity (50 to 99).

Style

- **Bull Color:** colour of the bullish state (default Edolab green).
- **Bear Color:** colour of the bearish state (default Edolab red).
- **Neutral Color:** colour of the Flat state (default teal).
- **Theme:** panel visual theme (Dark or Light).

Panel

- **Show Panel:** enables or disables the information panel.
- **Panel Position:** one of the four chart corners.
- **Panel Size:** Small or Medium.

Section 12 — Alerts

The indicator ships with six predefined alerts that cover the key events of the reading. They can be configured from the TradingView alerts menu by selecting the indicator as source.

Alert	Condition	Reading
HMA Flip Up	Slope crosses from negative to positive	Bullish inflexion. Start of a new Trend Up regime.
HMA Flip Down	Slope crosses from positive to negative	Bearish inflexion. Start of a new Trend Down regime.
Fast Cross Up	Fast HMA crosses above main	Bullish acceleration of recent momentum.
Fast Cross Down	Fast HMA crosses below main	Deceleration or reversal of recent momentum.
Price Crossed Above HMA	Price closes above the main HMA	Bullish reclaim of the dynamic average.
Price Crossed Below HMA	Price closes below the main HMA	Loss of the HMA dynamic support.

Alerts are evaluated on bar close in the active timeframe. They can be combined freely depending on trading style: the two inflexion alerts are useful for medium and long-term position management; the two Fast Cross alerts are common in active management; the two Price/HMA alerts serve to confirm breaks of the average in mature trends.

Section 13 — Combined Reading and Patterns

The usefulness of the indicator grows when its five layers are read together rather than separately. Below are four recurrent patterns that appear in most assets.

Clean bullish reactivation

After a prolonged period in Trend Down, a Flip Up appears and the slope turns positive. Price reclaims the main HMA and the *Price Crossed Above HMA* alert fires. Shortly after, the Fast HMA crosses above the main (Fast Cross Up). The fill switches from red to green and the panel shows State Trend Up with growing Slope and Price vs HMA turning positive. It is the cleanest sequence for confirming the start of a new bullish regime.

Bullish exhaustion

In a sustained Trend Up regime, the panel shows shrinking Slope while price keeps advancing. A Fast Cross Down appears before any slope change. The green fill remains but becomes thinner. That loss of acceleration usually precedes a Flip Down. It is not an automatic sell signal, but a warning that the trend is running out of fuel.

Bearish capitulation

In an advanced Trend Down, a Fast Cross Up appears inside the red fill. It is a first reaction signal. If in the following bars price reclaims the main HMA and the slope turns, the Flip Up arrives. If instead price bounces off the HMA without piercing it and the slope stays negative, the bounce is most likely a retest within the Trend Down.

Sideways distribution with noise

In sideways zones, slope crosses zero repeatedly and alternating Flips appear within a few bars. In those conditions, markers must be taken with caution: they are reflecting noise, not structure. One way to filter this scenario is to raise *Slope Lookback* to 5 bars or more, which reduces sensitivity and removes the non-structural flips.



4H detail on MU showing Flip Up, sustained rally, Fast Cross Up acceleration and final Flip Down with shift into Trend Down — all layers working together.

Section 14 — Access and License

Edo HMA Core is an open-use indicator of the Edolab Markets ecosystem. It is published on TradingView as a public indicator and can be applied to any asset and timeframe without restrictions.

The code is published under TradingView's open convention, which allows users to study its logic, adapt parameters and, if desired, build their own variations on top of the same engine.

Section 15 — Risk Disclaimer

This manual and the Edo HMA Core indicator are technical analysis tools. They do not constitute investment recommendations, financial advice or any guarantee of results.

Trading financial instruments carries the risk of capital loss. Use of the indicator is the sole responsibility of the user, who must operate according to their own plan, risk management and judgement.

Images and examples in this manual are illustrative and represent past market situations. Past performance does not guarantee future results.

Section 16 — Conclusion

Edo HMA Core brings the Hull Moving Average to its most complete form within the Edolab ecosystem. It preserves the original idea of reducing lag without accumulating noise, and extends it with five coordinated readings: direction, slope, acceleration, inflexion and distance from price.

The result is not a closed signal system, but a clean, stable and comparable trend surface. On top of it the trader can build their own setup, combining it with their usual momentum, structure or volume indicators with no fear of duplicating information.

Structure before signals. Context before confirmation. Clarity over noise.

